REMARKS

Reconsideration and allowance of this application are respectfully requested. New claims 21-23 have been added. Claims 1-23 are now pending in the application. The rejections are respectfully submitted to be obviated in view of the remarks presented herein.

Rejection Under 35 U.S.C. § 102(e) - Yushiya et al.

Claims 1-3, 5, 7-11, 14 and 16-20 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Yushiya et al. (U.S. Patent Number 6,456,748 B1; hereinafter "Yushiya"). The rejection is respectfully traversed.

Regarding claim 1, an exemplary embodiment of the invention relates to a light source device used at the time of separating light which is irradiated toward an original and is one of transmitted through and reflected by the original. The light is separated into N color components. The light source device comprises a light source section and a controller. The light source section is formed from M light emitting elements having different emission spectrums, wherein M>N. The controller controls overall spectral characteristics of light emitted from the light source section by controlling at least one of lighting and extinguishing of each of the M light-emitting elements of the light source section, emission intensity of each of the M light-emitting elements of the light source section, and emission time of each of the M light-emitting elements of the light source section.

The disclosure of Yushiya does not anticipate the claimed invention. Yushiya discloses an image reading system which is switchable between a first mode for reading a color image and

a second mode for reading a black and white image. In the second mode, Yushiya's image reading system reduces the turn-on period of at least one of a plurality of light sources of mutually different light emission wavelengths (column 3, lines 24-43).

However, there is no teaching in Yushiya of all the elements of the claimed invention. The Examiner relies on Figure 18 and column 11, lines 59-64 of Yushiya for the teaching of a light source section formed from M light emitting elements having different emission spectrums, wherein M>N. However, Yushiya does not teach or suggest light irradiated towards an original and is one of transmitted through and reflected by the original being separated "into N color components," as recited in claim 1. Further, Yushiya does not teach or suggest that the number M of LED chips (31 to 33) mounted on LED substrate (43) (column 11, lines 59-64) have different emission spectrums, where M is greater than the number of color components N which the light is separated into (N<M). In Yushiya, although three different kinds of LEDs (31 to 33) are depicted, there is no teaching or suggestion of a relationship M>N between the number of light emitting elements having different emission spectrums (M), and the number of color components which light is separated into (N). Yushiya's sensor array (1) as shown in Figures 2 and 15 is a multi-chip sensor array consisting of a linear array of plural line sensors (2-1 to 2-15) on a substrate (19) (column 7, lines 3-12). However, Yushiya's sensor array (1) does not teach or suggest the separation of the light it receives from the optical system (29) into N color components, where M>N. At least by virtue of the aforementioned differences, the claimed invention distinguishes over Yushiya. Claims 2, 3, 5, 7 and 8 are dependent claims including all of the elements of independent claim 1, which, as established above, distinguishes over Yushiya.

Therefore, claims 2, 3, 5, 7 and 8 are patentable for at least the aforementioned reasons as well as for their additionally recited features. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(e) are respectfully requested.

With further regards to claim 5, "light emitting elements are provided in the light source section corresponding to each color component wavelength region, and light emitting elements corresponding to at least one color component wavelength region are formed from a plurality of light emitting elements each having a different emission spectrum." There is no teaching or suggestion in Yushiya of providing light emitting elements corresponding to each color component wavelength region, as claimed. As discussed above, Yushiya fails to teach or suggest even the separation of light into N color components. At least by virtue of these additional differences as well as for the aforementioned reasons, the claimed invention distinguishes over Yushiya.

With further regards to claim 8, "light emitting elements are provided in the light source section corresponding to each color component wavelength region and light emitting elements corresponding to at least one color component wavelength region are provided with a single light source unit formed from a plurality of light emitting elements each having a different emission spectrum." There is no teaching or suggestion in Yushiya of providing color component wavelength regions, as claimed. As discussed above, Yushiya fails to teach or suggest even the separation of light into N color components. At least by virtue of these additional differences as well as for the aforementioned reasons, the claimed invention distinguishes over Yushiya.

Regarding claim 9, another exemplary embodiment of the invention relates to a device for reading an original, the device including a light source section, a sensing apparatus, and a controller. The light source section is formed from an M number of light emitting elements each having a different emission spectrum. The sensing apparatus divides light, which has been emitted from the light source section and has been transmitted through or reflected by an original which is being read, into an N number of color components with N<M. The sensing apparatus converts the divisional color components into electric signals. The controller controls overall spectral characteristics of light emitted from the light source section by controlling at least one of lighting and extinguishing of each light emitting elements, emission intensity of each light emitting elements, and emission time of each light emitting element.

As discussed above, Yushiya does not teach or suggest a division of light "into N color components," as claimed. Further, Yushiya does not teach or suggest that the number M of LED chips (31 to 33) mounted on LED substrate (43) (column 11, lines 59-64) have different emission spectrums, where M is greater than the number of color components N which the light is divided into (N<M). The claimed invention specifically recites "a sensing apparatus dividing, into N color components wherein N<M, light which has been emitted from the light source section and has been transmitted through or reflected by an original which is being read." Yushiya's sensor array (1) does not divide the light received from the optical system (29), nor is such a division suggested by Yushiya. At least by virtue of the aforementioned differences, the claimed invention distinguishes over Yushiya. Claims 10, 11, 14 and 16-19 are dependent claims including all of the elements of independent claim 9, which, as established above, distinguishes

over Yushiya. Therefore, claims 10, 11, 14 and 16-19 are patentable for at least the aforementioned reasons as well as for their additionally recited features. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(e) are respectfully requested.

With further regards to claim 10, "light emitting elements are provided in the light source section corresponding to each color component wavelength region, and light emitting elements corresponding to at least one color component wavelength region are formed from a plurality of light emitting elements each having a different emission spectrum." There is no teaching or suggestion in Yushiya of providing color component wavelength regions, as claimed. As discussed above, Yushiya fails to teach or suggest even the division of light into N color components. At least by virtue of these additional differences as well as for the aforementioned reasons, the claimed invention distinguishes over Yushiya.

With further regards to claim 17, "light emitting elements are provided in the light source section corresponding to each color component wavelength region, and a light source unit is provided having light emitting elements corresponding to at least one color component wavelength region, with the light emitting elements in the light source unit each having a different emission spectrum." There is no teaching or suggestion in Yushiya of providing light emitting elements corresponding to each color component wavelength region, as claimed. As discussed above, Yushiya fails to teach or suggest even the division of light into N color components. At least by virtue of these additional differences as well as for the aforementioned reasons, the claimed invention distinguishes over Yushiya.

With further regards to claim 19, "the sensing apparatus divides, into N color components, light which has been transmitted through or reflected by the original and has been incident on the sensing apparatus, and the sensing apparatus carries out sensing by using a charge-accumulating type light sensor which accumulates charges corresponding to light amounts of respective color component lights, and the sensing apparatus has an accumulating time controller which controls the charge accumulating time at the charge-accumulating-type sensor in accordance with control of the light source section carried out by the controller." There is no teaching or suggestion in Yushiya of dividing light into N color components and using a charge-accumulating-type light sensor to sense by accumulating charges, as claimed. At least by virtue of these additional differences as well as for the aforementioned reasons, the claimed invention distinguishes over Yushiya.

Regarding claim 20, another exemplary embodiment of the invention relates to a method for producing light for reading an original, wherein the light is either transmitted through an original to be read or reflected by the original, and thereafter, the light is separated into N color components, and electrical signals are produced. A light source section is formed from M light emitting elements each having a different emission spectrum, wherein M>N. A type of the original is determined, and desired overall spectral characteristics is selected for light emitted from the light source section based on the type of the original. Overall spectral characteristics is provided for light emitted from the light source section by controlling at least one of whether each of the M light emitting elements is illuminated, emission intensity of each of the M light

emitting elements, and emission time of each of the M light emitting elements, in accordance with the selected overall spectral characteristics.

As discussed above, Yushiya does not teach or suggest that "the light is separated into N color components," as claimed. Further, Yushiya does not teach or suggest that the number M of LED chips (31 to 33) mounted on LED substrate (43) (column 11, lines 59-64) have different emission spectrums, where M is greater than the number of color components N which the light is separated into (N<M). At least by virtue of the aforementioned differences, the claimed invention distinguishes over Yushiya. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(e) are respectfully requested.

Rejection Under 35 U.S.C. § 103(a) – Yushiya et al.

Claims 6 and 12 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yushiya et al. The rejection is respectfully traversed.

As discussed above, Yushiya does not teach or suggest that the light is separated or divided into N color components. Further, Yushiya does not teach or suggest a controller which controls "in accordance with changes due to temperature in emission spectrums of the light emitting elements," as claimed. The Examiner has asserted that it would have been obvious to include controller in Yushiya's image reading system based on changes due to temperature variations. However, the claimed invention controls in accordance with changes **in emission spectrums of the light emitting elements** due to temperature. Applicant submits that it would not be an obvious enhancement of Yushiya to control based on the specifically claimed changes in emission spectrums. At least by virtue of the aforementioned differences, the claimed

invention distinguishes over Yushiya. Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) are respectfully requested.

Newly Added Claims

Applicant has added new claims 21-23 to provide more varied protection for the present invention. Support for these claims is found in the specification on at least page 24, lines 10-19, and page 29, lines 4-21. Claims 21-23 are allowable based on at least their dependencies, as well as for their additionally recited features.

That is, the cited reference does not teach or suggest: that "the at least one of a type of spectral transmission density characteristics of the original and a type of spectral sensitivity characteristics of the recording material are calculated by the light source device," as recited by claim 21; that "the controller controls overall spectral characteristics of light emitted from the light source section by controlling emission intensity of each of the M light-emitting elements of the light source section," as recited by claim 22; or that "the controller controls overall spectral characteristics of light emitted from the light source section by controlling emission time of each of the M light-emitting elements of the light source section," as recited by claim 23.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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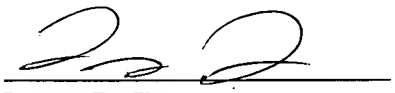
Respectfully submitted,



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